EXHIBIT 4

1076

IN THE UNITED STATES DISTRICT COURT

FOR THE NORTHERN DISTRICT OF CALIFORNIA

SENTIUS CORPORATION,

Plaintiff,

v.

FLYSWAT INC.,

Defendant.

No. C 00-02233 SBA

ORDER RE: CONSTRUCTION OF CLAIM 8 OF UNITED STATES PATENT NO. 5,822,720

Plaintiff's Counsel are directed to serve this order upon all other parties in this action.

This matter comes before the Court for the proper construction of Claim 8 of United States Patent No. 5,822,720 ("'720 Pat."). Each side has provided their proposed construction of Claim 8. The Court held a claim construction hearing on November 13 and 14, 2001. Having considered all of the parties' arguments, and being fully informed, the Court hereby CONSTRUES Claim 8 of the United States Patent No. 5,822,720.

I. Overview

A. '720 Patent

According to the '720 Patent, "the present invention relates to indexing displayed elements. More particularly, the present invention relates to a novel indexing scheme that is useful in such applications as learning a foreign language, for example a language based upon learning an

ideographic alphabet, such as Japanese." ('720 Pat., 1:11-14.)[1] The '720 Patent discloses an invention that electronically links selected material displayed on a computer to some external reference material. In an exemplary embodiment, the invention is used to assist students in learning Japanese, and other foreign language. ('720 Pat., 1:10-4:67.) However, as the Patent states, "one skilled in the art will readily appreciate that other applications may be substituted for those set forth herein without departing from the spirit and scope of the present invention." ('720 Pat., 11:34-39.)

B. Claim 8

Sentius alleges that Flyswat is contributorily infringing Claim 8 of the '720 Patent. Claim 8, in its entirety, provides,

> [8][2] A method for *linking* source material to reference material for display, comprising:
> [8.1] determining the *beginning position address* of a *source material image* stored in an electronic database, said source material image including a *plurality of discrete pieces* having *links* to *external reference materials* comprising any of textual, audio, video, and picture information;
> [8.2] *cutting* said source material image into said discrete pieces;
> [8.3] determining a *starting point address* and an *ending point address* of said discrete pieces of said image based upon said beginning position address of said source material image;
> [8.4] recording said starting and said ending addresses in a *look-up table*;
> [8.5] selecting a discrete portion of said source material image;
> [8.6] determining the *address of said selected discrete portion*;
> [8.7] *converting said address* of said selected discrete portion to an *offset value* from said beginning position address of said source material image;
> [8.8] comparing said offset value with said recorded start and end point addresses of said discrete pieces in said look-up table;
> [8.9] selecting an external reference that corresponds to said look-up table start and end point addresses; and
> [8.10] reproducing said external reference.

('720 Pat., at 12:52-13:12.)

The Plaintiff characterizes Claim 8 as essentially a two-part process. The first part begins with loading the source material into the system (at which point it becomes the "source material image"), identifying ("cutting") the discrete component parts within the source material image that

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[1] Citations to the patent, unless otherwise indicated, are listed by reference to the column number followed by the row number.

[2] As the parties have done, the numbers inserted refer to the individual elements or limitations of the Claim. These numbers are used instead of the column and sentence numbers used with reference to other language cited in the patent. The disputed terms are italicized.

are to be linked to reference materials, identifying the location within the electronic system ("the address") where each selected component part begins and the address where each component part ends, and recording in the system ("the look-up table") the starting and ending point addresses of each selected component part. (Sentius' Opening Brief ("Sentius' Op. Br."), 2.) The second part begins when a user selects on the computer a particular component part of the source material image. The system determines the address of the selected component, converts that address to a value based on its location within the source material ("offset value"), identifies the external reference information which corresponds to the selected component by matching the calculated offset value to the beginning and end point addresses of the component, and then retrieves the appropriate external references. (Sentius Op. Br., 2.)

Defendant Flyswat characterizes Claim 8 as a multi-step process which includes (1) taking an electronic book containing text; (2) cutting the text into pieces (which represent distinct words or phrases); (3) linking those cut pieces to external references contained in a look-up table; (4) compiling the cut and linked pieces into an image, with the starting and ending points of the cut pieces recorded in this look-up table along with external references; and (5) making a "cut-linked-compiled" image available for display. (Flyswat's Claim Construction Brief ("Flyswat's Br."), 2.)

II. Construction of Claim 8

A. Legal Standard

A patent confers the right to exclude others from making, using, or selling the invention defined by the patent's claims. See Standard Oil Co. v. American Cyanamid Co., 774 F.2d 448, 452 (Fed. Cir. 1985). A patent must describe the exact scope of an invention and its manufacture to secure to a patentee all to which he is entitled, and to apprise the public of what is still open to them. See Markman v. Westview Instruments, 517 U.S. 370, 373, 116 S.Ct. 1384 (1996). These objectives are served by two distinct elements of a patent document. First, it contains a specification describing the invention in such full, clear, concise, and exact terms as to enable any person skilled in the art to make and use the same. See 35 U.S.C. § 112. Second, a patent includes one or more claims, which particularly point out and distinctly claim the subject matter which the applicant regards as his or her invention. See 35 U.S.C. § 112.

The first step in any invalidity or infringement analysis is claim construction. See Union Oil Co. v. Atlantic Richfield Co., 208 F.3d 989, 995 (Fed. Cir. 2000). The construction of claims is simply a way of elaborating the normally terse claim language in order to understand and explain, but not to change, the scope of the claims. See id. Claim construction is a matter of law to be determined by the court. See Markman v. Westview Instruments, Inc., 52 F.3d 967, 979 (Fed. Cir. 1995), aff'd, 517 U.S. 370, 116 S.Ct. 1384 (1996).

1. Intrinsic Evidence

"It is well-settled that, in interpreting an asserted claim, the court should look first to the intrinsic evidence of record. i.e., the patent itself, including the claims, the specification, and, if in evidence, the prosecution history." Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1582 (Fed. Cir. 1996) (citing Markman, 52 F.3d at 979). In the context of the intrinsic evidence, the court should first look to the language of the claims themselves. See id. Words in a claim are generally given their ordinary and customary meaning as understood by one of ordinary skill in the art. See id.; see also Dow Chemical Co. v. Sumitoro Chemical Co., 257 F.3d 1364, 1373 (Fed. Cir. 2001) ("[A] technical term used in a patent claim is interpreted as having the meaning a person of ordinary skill in the field of invention would understand it to mean."). Dictionaries, although a form of extrinsic evidence, may be considered by the court in determining the meaning of patent claim terms, provided the dictionary definition does not contradict any definition found in or ascertained by a reading of the patent documents. See Kopykake Enterprises, Inc. v. Lucks Co., 264 F.3d 1377, 1282 (Fed. Cir. 2001); Dow Chemical, 257 F.3d at 1373 ("Dictionaries and technical treatises, which are extrinsic evidence, hold a special place and may sometimes be considered along with the intrinsic evidence when determining the ordinary meaning of claim terms."). The Court should rely on specialized, technical dictionaries that reflect the understanding of one skilled in the art, rather than lay dictionaries. AFG Indus. v. Cardinal, 239 F.3d 1239, 1247-48 (Fed. Cir. 2001) ("Dictionary definitions of ordinary words are rarely dispositive of their meanings in a technological context.") (citing Anderson v. Int'l Eng'g & Mfg., Inc., 160 F.3d 1345, 1348-49 (Fed. Cir. 1998); see also Hoescht Celanese Corp. v. BP Chems. Ltd., 78 F.3d 1575, 1580 (Fed. Cir. 1996)).

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"Although words in a claim are generally given their ordinary and customary meaning, a patentee may choose to be his own lexicographer and use terms in a manner other than their ordinary meaning, provided the special definition of the term is clearly stated in the specification." Vitronics, 90 F.3d at 1582. Therefore, it is necessary to review the specification to determine whether the patentee has used terms inconsistent with their ordinary and customary meaning. See id.; see also Dow Chemical, 257 F.3d at 1373 ("[T]he court must examine the intrinsic evidence to determine whether the patentee has given a term an unconventional meaning."). Thus, the specification acts as a dictionary when it expressly defines a term used in the claim or defines it by implication. See Vitronics, 90 F.3d at 1582 (citing Markman, 52 F.3d at 979). However, in examining the specification, the court must not read limitations from the specification into the claims. See Burke, Inc. v. Bruno Independent Living Aids, Inc., 183 F.3d 1334, 1340 (Fed Cir. 1999); Comark Communications, Inc. v. Harris, Corp., 145 F.3d 1182, 1186-87 (Fed. Cir. 1998) (limitations from specification are not to be read into the claims, but there is a fine line between reading a claim in light of the specification and reading a limitation into the claim from the specification); but see Scimed Life Systems, Inc. v. Advanced Cardiovascular Systems, 242 F.3d 1337, 1341 (Fed. Cir. 2001) ("Where the specification makes clear that the invention does not include a particular feature, that feature is deemed to be outside the reach of the claims of the patent, even though the language of the claims, read without reference to the specification, might be considered broad enough to encompass the feature in question.").

Finally, if it is entered into evidence, the court must examine the prosecution history of the patent. See Dow Chemicals, 257 F.3d at 1373; Vitronics, 90 F.3d at 1582. The prosecution history contains the complete record of the proceedings before the Patent and Trademark Office, and may include express representations made by the applicant regarding the scope of the claims. See Vitronics, 90 F.3d at 1582. The court examines the prosecution history to determine "whether the patentee has 'relinquished a potential claim construction in an amendment to the claim or in an argument to overcome or distinguish a reference.'" Dow Chemicals, 257 F.3d at 1373 (citing Interactive Gift Exp., Inc. v. Compuserve Inc., 256 F.3d 1323, 1331 (Fed. Cir. 2001)); see also Pall Corp. v. PTI Technologies, 259 F.3d 1383, 1392 (Fed. Cir. 2001) ("[I]t is well established that '[t]he

prosecution history limits the interpretation of claim terms so as to exclude any interpretation that was disclaimed during prosecution.'") (citing Southwall Technologies, Inc. v. Cardinal IG Co., 54 F.3d 1570, 1576 (Fed. Cir. 1995)). A narrower claim interpretation will be adopted if the "accused infringer can demonstrate that the patentee 'defined' the claim as 'excluding' a broader interpretation 'with reasonable clarity and deliberateness.'" Pall Corp., 259 F.3d at 1393 (citing N. Telecom Ltd. v. Samsung Elecs. Co., 215 F.3d 1281, 1294-95 (Fed. Cir. 2000)).

2. Extrinsic Evidence

In most cases, an examination of the intrinsic evidence will be sufficient to resolve any ambiguity in the disputed claim and it would be improper to rely on extrinsic evidence. See Vitronics, 90 F.3d at 1583 (citing Pall Corp. v. Micron Separations, Inc., 66 F.3d 1211, 1216 (Fed. Cir. 1995)). Extrinsic evidence may be used to define the claim only if the claim language remains "genuinely ambiguous" after consideration of the intrinsic evidence. See id. However, "it is entirely appropriate, perhaps even preferable, for a court to consult trustworthy extrinsic evidence to ensure that the claim constructions it is tending to from the patent file is not inconsistent with clearly expressed, plainly apposite, and widely held understandings in the pertinent technical field.'" AFG Indus., 239 F.3d at 1249 (quoting Pitney Bowes, Inc. v. Hewlett-Packard, Co., 182 F.3d 1298, 1309 (Fed. Cir. 1999)); see also Bell v. Howell Document Management Prods. Co., 132 F.3d 701, 706 (Fed. Cir. 1998); Mantech Envtl. Corp. v. Hudson Envtl. Servs., 152 F.3d 1368, 1373 (Fed. Cir. 1998).

> When "the specification explains and defines a term used in the claims, without ambiguity or incompleteness, there is no need to search further for the meaning of the term." However, when such definition is challenged it is often appropriate, despite facial clarity and sufficiency of the specification and the prosecution history, to receive evidence of the meaning and usage of terms of art from persons experienced in the field of the invention.

ATD Corp. v. Lydall, Inc., 159 F.3d 534, 540 (Fed. Cir. 1998) (citing Fed.R.Evid. 702-706; Multiform Desiccants, Inc. v. Medzam, Ltd., 133 F.3d 1473, 1478 (Fed. Cir. 1998)). A court may hear all relevant testimony -- including expert testimony -- so long as it does not accord weight to expert testimony which contradicts the clear language of the claim. See Vitronics, 90 F.3d at 1584.

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B. Analysis

1. Person Skilled in the "Art"

It is first necessary to determine the relevant "art" which comprises the patent. Flyswat has proposed that one skilled in the art is a computer scientist or someone who "holds a bachelor's degree in computer science or equivalent work experience." Sentius agrees with Flyswat's definition of one skilled in the art "for purposes of the claim construction hearing." Therefore, the Court adopts Flyswat's definition and finds that one skilled in the art is a computer scientist or someone with a bachelor's degree in computer science or equivalent work experience.[3]

2. Method Claim

The parties do not dispute that Claim 8 is a method claim. However, the parties do dispute whether the method is comprised of a series of sequential steps. Sentius characterizes Claim 8 as a two-part process with a series of actions included within each part. Sentius contends that while the actions appear in a particular sequence in Claim 8, the sequence is not required for the operation of the claimed method. Rather, Sentius argues that the actions can be performed in an order other than presented in Claim 8. Flyswat characterizes Claim 8 as a multi-step process with a particular sequence or order. Flyswat contends that the steps must be performed in the order in which they are presented in Claim 8.

Flyswat's interpretation is the correct interpretation. Despite Plaintiff's argument to the contrary, Claim 8 must follow a particular sequence if it is to be sensibly construed. For instance, Element 8.2 refers to cutting the source material image into discrete pieces and Element 8.3 refers to determining the beginning and ending addresses of those discrete pieces. Thus Element 8.2 must precede 8.3. As another example, Element 8.7 references converting the address of a discrete piece into an offset value and Element 8.9 references comparing the offset value to discrete points in a look-up table. The only logical sequence to the terms is the order in which they are presented in

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[3] At the claim construction hearing, Mark S. Miller, Plaintiff's expert, testified that computer science is a broad field and that he was testifying from the narrower field of "hypertext" technology. Other than this statement, Sentius made no argument that Flyswat's definition of one skilled in the art is too broad. Moreover, Plaintiff did not object to the qualifications of Dr. Douglas Justin Tygar, Flyswat's expert, as one skilled in the art. Therefore, the Court finds that one skilled in the art need not be limited to those with experience in "hypertext" technology.

Claim 8. Moreover, these steps correspond to the specification which presents the order of cutting, linking, and compiling. ('720 Pat., 6:63-7:47.) Sentius has asserted that the steps need not be performed in a particular order but has suggested no other logical order in which they may be performed. Based on the language of the claim, read in light of the specification, Claim 8 presents a series of steps set out in order. See Loral Fairchild Corp. v. Sony Corp., 181 F.3d 1313, 1321 (Fed. Cir. 1999) (finding that literal language, specification, and prosecution history all supported interpretation that steps must be performed in a certain order). Therefore, the Court finds that Claim 8 defines a series of steps which must be performed in the order as presented in Claim 8.

3. Construction of Claim 8

The parties dispute both particular terms as well as the construction of the overall elements. Therefore, it is helpful to analyze the disputed terms as well as the overall element or limitation.[4]

a. Claim 8: Preamble

The preamble to Claim 8 reads, "A method for linking source material to reference material for display, comprising: ...." Both parties have proposed constructions of the preamble. Generally the preamble of a claim does not limit the scope of the claim when it merely states the purpose of the invention. See In re Paulsen, 30 F.3d 1475, 1479 (Fed. Cir. 1994). However, "terms appearing in the preamble may be deemed limitations of a claim when they 'give meaning to the claim and properly define the invention.'" Id. (citing Gerber Garment Technology, Inc. v. Bernier, 768 F.2d 1318, 1322 n.3). The parties agree that it is necessary to construe the terms in the preamble.

1.) Undisputed Terms

a.) Comprising

The parties have agreed that "comprising" is a transition term synonymous with "including", "containing" or "characterized by" and is open-ended. (Revised Joint Claim Construction Statement ("RJCCS"), Attach. A, 1.)[5] The Court adopts the parties' definition of "comprising."

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[4] References are to the Claim as well as the element or limitation, and thus may appear as Claim 8.1 meaning Claim 8, element or limitation 1.

[5] The parties have submitted a Joint Submission Regarding Revised Claim Chart. This revised joint claim construction statement supersedes the Joint Claim Construction Statement.

b.) Source Material

The parties have agreed that "source material" means "text and/or multimedia stored electronically." (RJCCS, Attach. A, 1.) The Court adopts the parties' definition of "source material."

c.) Reference Material

The parties have agreed that "reference material" means "information not contained within the source material. Reference material can be, for example, in the form of text, graphics, images, movies, and/or sound." (RJCCS, Attach. A, 1.) The Court adopts the parties' interpretation of "reference material."

d.) Display

The parties have agreed that "display" means "graphical display to a person or persons viewing a computer screen." The Court adopts the parties' proposed interpretation of "display."

2.) Disputed Terms

The parties dispute the definition of "linking" as presented in the preamble. Sentius defines "linking" to mean "referring to data or information or the location of data or information in a record that is different than the originating record." (RJCCS, Attach. B, 1.) Flyswat contends that "linking" means "creating a tagless, media independent electronic connection between cut text or other discrete pieces (audio, video, or pictures) and an external reference using a computer lookup table." (RJCCS, Attach. B, 1.)

The Court first looks to the claim language itself as well as other intrinsic evidence. See Dow Chemical Co., 257 F.3d at 1373. Moreover, in this context, the Court may use a technical or scientific dictionary to determine the ordinary meaning of "linking" to a person skilled in the relevant art. See id. Sentius has provided two dictionaries,[6] Techencyclopedia[7] and Computer User

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[6] Flyswat objects to all of the dictionaries which were attached to the Declaration of Marc Bookman in Support of Plaintiff Sentius Corporation's Opening Claim Construction Brief Pursuant to Civil Local Rule 16-11(d)(1) ("Bookman Decl."). The former Civil Local Rule 16-10(a)(4) provides that the parties must provide a "Proposed Claim Construction Statement" which shall include "[a]ny extrinsic evidence that supports the proposed construction of the claim, including, but not limited to, expert testimony, inventor testimony, dictionary definitions and citations to learned treatises, as permitted by law." Flyswat argues that Sentius did not include these dictionaries and, therefore, Sentius should be precluded from relying upon them. Sentius claims that while the citations do not appear in the Joint Statement, the definitions do appear by way of those proposed by Sentius. Further, there is

High-Tech Dictionary.[8] Techencyclopedia provides a definition for "link," which states, "In data management, a pointer embedded within a record that refers to data or the location of data in another record." The Computer User High-Tech Dictionary provides multiple definitions of links. Two are applicable: "1. A connector; anything that connects two or more things. . . . 3. A pointer embedded in a database record that refers to data or the location of data in another record." These dictionaries are helpful to place the Court in the position of a person of ordinary skill in the art of computer science. The definition of linking rests on the reference in one record to information in another record. Sentius' proposed definition -- "referring to data or information or the location of data or information in a record that is different than the originating record" – falls within the meaning of the term "linking."

The specification's use of "linking" corresponds to Sentius' proposed definition. For instance, the use of linking in the specification refers to "the link between selected text and the external reference" or "the linking process takes the text after the word cut process and links it to an external reference." ('720 Pat., 6:52-53; 7:8-9.) This use of "linking" falls squarely within Sentius' suggested meaning of a pointer from information in one record to information in another.

Flyswat argues that Sentius surrendered the common meaning of linking during the patent application process. In particular, Flyswat contends that Sentius' definition is too broad and that the proper definition must include the following limitations: (a) tagless, (b) media independent (c) electronic connection between (d) cut text or other discrete pieces (audio, video, or pictures) and an external reference using (e) a computer lookup table. Additionally, Flyswat argues that "link" should be constructed to exclude "hyperlinks." Sentius rejects this definition as appending

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some dispute whether these dictionary definitions were nonetheless provided to Flyswat prior to the Joint Statement. Most importantly, Sentius asserts three citations were already provided to Flyswat and that there was no prejudice to Flyswat.

Ultimately, the extrinsic evidence is for the benefit of the Court. Because the Court finds these dictionaries beneficial, Flyswat's objections are OVERRULED. The purpose of placing the citations in the report is to allow the opposition time to prepare rebuttal extrinsic evidence. In this case, Flyswat has not been prejudiced

[7] The dictionary is located at, http://www.techweb.com/encyclopedia/defineterm?term=link.

[8] The Computer High-Tech Dictionary is located at, http://www.computeruser.com/resources/diction.../nf.definition.html?bG9va3VwPTY5MjM.

unnecessary words to the ordinary meaning of "linking" and providing a narrower scope than the ordinary meaning of link which is used in Claim 8.

(1.) Tagless

Flyswat acknowledges that "tagless" appears neither in Claim 8 or in the specification. However, it contends that Sentius surrendered any definition of link which included tags and, therefore, is precluded from seeking a construction of link which would include tags. The relevant prosecution history concerns Sentius' response to the Patent and Trademark Office ("PTO") following the PTO's rejection of certain claims because they were unpatentable over two prior patents, the Transparent Language program patent and the Cassorla patent. (Declaration of Thomas J. Friel, Jr., in Support of Defendant Flyswat, Inc.'s Claim Construction Brief Pursuant to [Former] Civil Local Rule 16-11(d)(2) ("Friel Decl."), Ex. A, Attachment 18.) Sentius stated,

> As discussed in the Examiner's Interview, and in the prior responses in this matter, Applicant submits that the invention is non-obvious in view of Transparent Language and Cassorla. The multimedia resources of Transparent Language and Cassorla are linked in a hierarchical structure.
>
> Cassorla uses the relative positions within the document to "fix" the position of associated annotations, thereby generating identifying "tags". The tags are subsequently used to retrieve the annotations by reference to the position of the document itself.
>
> *By contrast, the invention creates tagless, media independent, linked documents.* Accordingly, the Claims have been amended to reflect that address on the electronic database is determined for the source material image.
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> * * *
>
> *Applicants submits the claims, as amended, clarify the unique tagless linking of multimedia resources of the invention.* Applicant therefore respectfully requests the Examiner withdraw the objection under 35 U.S.C. § 103, and permit the application to issue as a United States patent.

(Friel Decl., Ex. A, Attach. 18, 6:30-7:22 (emphasis added).)

Flyswat claims that in this language Sentius has given up any claim to methods in which the links are not tagless. (Flyswat's Brief, 10.) Sentius concedes that Claim 8 does not include mechanisms that insert human-generated tags for the purpose of making links and in this sense "linking" is "tagless." (Plaintiff Sentius Corporation's Final Claim Construction Brief Pursuant to Civil Local Rule 16-11(d)(1) ("Sentius' Fin. Br."), 4-5.) However, Sentius argues it has not given up

any claims that the invention applies to document entered into the system that happen to contain tags for other purposes. (Sentius' Fin. Br., 4-5.)

Based on the representations of the parties, there is no dispute which impacts the construction of "linking" in Claim 8. It is clear from the prosecution history that Sentius' method for linking is tagless. The parties agree that "tagless" means not depending on tags -- i.e., without reliance or use of tags. The patent itself describes a *method* of linking. Thus it is the method of linking, not the material itself, which is tagless.

However, this necessitates a definition of "tag." Flyswat suggests that tag should be defined as "a data stream of text marked up in accordance with a markup language where the text is divided into elements consisting of a begin tag and its contents and terminated by an end tag when necessary." (Flyswat's Br., 17.) Flyswat cites to United States Patent Number 5,146,552 ("Cassorla") which was included in the prosecution history of the '720 Patent. (Friel Decl., Ex. A, Attach. 30, Cassorla 1:26-47.) Flyswat contends this definition of "tag" is appropriate since these precise terms were used in Cassorla and Cassorla was the patent which Sentius concededly distinguished from its method of linking. (Friel Decl., Attach. 18, 6:35-7:20.)

Sentius agrees that it is appropriate to look to the Cassorla patent to determine the meaning of tag. According to Sentius, "tag" as used in Cassorla referred to a hierarchal means of structuring the reference to the look up table. Sentius also concedes that its method of linking does not include human-inserted, hard-coded tags, implying that tags in Cassorla were human-inserted, hard-coded.

The Cassorla patent refers to "tags" in its discussion of existing art. (Friel Decl., Ex. A, Attach. 30, Cassorla 1:26-47.) Cassorla provides that

> A structured document can be prepared in accordance with the standardized general markup language . . . . *A data stream of text marked up in accordance with this standardized general markup language, will have its text divided into elements consisting of a begin tag and its content and terminated by an end tag, when necessary.* Within a WYSIWYG (what you see is what you get) editor, text is displayed to the use as it will appear when it is printed, even though its structure is defined by begin tags and end tags for each element of text.
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> * * *
>
> The Cassorla, et al. patent application describes a method for creating on-line information from the same marked up source material used to create printed information such as a word processor or a markup

> language source such as a text formatter. A book data stream is provided, in an intermediate format for storing on-line information, specifically designed to be used by a book display program. *The data stream captures and preserves structural information about books, by using the structured document tags.*

(Friel Decl., Ex. A, Attach. 30, Cassorla 1:26-57 (emphasis added).) The patent itself describes a method for annotating an on-line book. (Friel Decl., Ex. A, Attach. 30, Cassorla 2:5-14.) In describing the best mode for applying the invention, Cassorla states,

> An electronic 'book' file contains published material that may include text, headings, figures, pictures, etc. organized as a set of document elements. *These document elements such as chapters, sections, topics, subtopics, paragraphs are identified by the writer during document production and are recorded as part of the book file.* The document elements are usually arranged in a nested fashion, that is paragraphs are contained within subtopics, topics within topics, and so on. . . . *In addition to the writer identified document elements, the text and material within the smallest document element is identified by its relative position within that document.* For example a specific position in the document might be identified as in chapter 3, topic 17, subtopic 4, paragraph 3, 46th word.

(Friel Decl., Ex. A, Attach. 30, Cassorla 3:29-46 (emphasis added).)

At the claim construction hearing, Dr. Douglas Justin Tygar, Flyswat's expert, testified that linking is either classified as using "tags" or using a "look up table." According to Dr. Tygar, "tag" is a term of art which means that the reference to some other information -- whether it be internal or external to the document -- is located in the text of the document itself. This is contrast to a look up table by which the reference to other information is not in the document itself but appears in a separate document which uses coordinates to indicate the portion of the document which is being linked to some other information. Dr. Tygar testified that "tag," as used in Cassorla, means elements that divide text up between a begin tag and an end tag when necessary. Dr. Tygar based this opinion on the fact that Cassorla refers to standard generalized markup language ("SGML") in relation to "tags" and SGML uses tags which are mixed into the text itself as opposed to a look up table.

Mr. Mark Miller, Sentius' expert, testified that the term "tag" in Cassorla refers to a method of linking using a structured format for referencing the information. It did not teach that the reference is mixed into the text of the document. Rather, he testified that Cassorla itself relies on an external look up table as the means of annotating external information to the electronic book.

The Court finds that Flyswat's argument more closely corresponds to the use of tags in Cassorla. Cassorla refers to two methods of linking or annotating to an external reference. Sentius is correct that one of the methods Cassorla describes is a look up table. The method is based on a structured formatting which uses "tags" such as heading, topic, paragraph, etc. (Friel Decl., Ex. A, Attach. 30, Cassorla, 3:29-46.) However, Cassorla makes clear that these "tags" are based on SGML and rely on a begin tag and an end tag. (Friel Decl., Ex. A, Attach. 30, Cassorla 1:26-47.) They are inserted by the writer of the book. (Friel Decl., Ex. A, Attach. 30, Cassorla 3:32-34.) The Cassorla patent then relies on these tags in structuring the annotations in the look up table. Thus the use of tag in Cassorla corresponds to the meaning given by Dr. Tygar.

Moreover, this interpretation is supported by the prosecution history in which Sentius distinguished the '720 patent from Cassorla by stating that the addresses of the text to be linked by the '720 patent "are compared to the addresses in the look up table, *rather than the Cassorla approach of linking particular references to the text itself.*" (Friel Decl., Ex. A, Attach. 17 (emphasis).) The statement of "linking particular references to the text itself" refers to links which are already embedded in the text as opposed to the '720 Patent which does not rely on such a method. Indeed, Sentius explicitly represented to the PTO that "Cassorla uses the relative position within the document to 'fix' the position of associated annotations, thereby generating identifying 'tags.'" (Friel Decl., Ex. A, Attach. 18, 6:35-36.) The relative position in Cassorla refers to embedded tags.

Based on the foregoing, "tag" as defined in Cassorla is "a data stream of text marked up in accordance with a markup language where the text is divided into elements consisting of a begin tag (mark) and its contents and terminated by an end tag (mark) when necessary."

(2.) Media independent

Flyswat argues that "linking" must also include "media independent" and suggests that the definition for media independent be "linking that is from all media types (i.e., a combination of text, graphics, video, or sound) to all media types. A system that links only from one single media type is not 'media independent.' Similarly, a system that links only to a single media type is not 'media independent.'" (Flyswat's Br., 17.)

As with tagless, the prosecution history demonstrates that Sentius distinguished its invention in the '720 Patent from Cassorla so that the invention in the '720 Patent is media independent. (Friel Decl., Ex. A., Attach. 18, 6:35-7:20 ("By contrast, the invention creates tagless, media independent, linked documents.").) Sentius admits that this is a limitation. (Sentius' Op.Br., 6.) Since there is no dispute that the linking process, as described overall in the '720 Patent and specifically in Claim 8, is media independent, the term "linking" in the preamble shall be constructed to include a reference to "media independent."

However, it is necessary to define "media independent." Flyswat defines media independent as "linking that is from all media types (i.e., a combination of text, graphics, video, or sound) to all media types. A system that links only from one single media type is not 'media independent.' Similarly, a system that links only to a single media type is not 'media independent.'" (Flyswat's Br., 17.) Flyswat has offered no basis for or source of its definition of "media independent." Sentius contends that "media independent" should be constructed based on what is described in Cassorla (i.e., media independent means not tied to a particular media format). As with the definition of tagless, it is appropriate to use the Cassorla patent in order to define "media independent." Sentius suggests that, based on Cassorla, the limitation of media independent should be constructed to mean "not tied to a particular media format as CD- and LAN-based hypertext systems in existence at the time were." Cassorla itself does not define the term.

Cassorla only refers to the particular form of media which is the electronic book. The limitation surrendered in the '720 Patent must be read in this context. Media independent means not relying on a particular media such as the electronic book medium which Cassorla relied upon. Sentius' proposed definition generally corresponds to this interpretation. Therefore, the Court defines "media independent" as "not tied to a particular media format."

(3.) Electronic Connection

Unlike either "tagless" or "media independent," there is no reference to "electronic connection" in the prosecution history. Flyswat suggests that since the specification refer to electronic books, "linking" must be an "electronic connection." Sentius does not contest that linking is an electronic connection. The Court, therefore, adopts Flyswat's proposed definition.

(4.) Cut text or other discrete pieces (audio, video, or pictures) and an external reference

Flyswat's proposed language essentially traces the language within Claim 8. Obviously, since "linking" defines Claim 8, all of the critical language in that Claim is implicitly included in this definition. It is not necessary to explicitly include all of these terms in the meaning of "linking" since this would obviate the reason for distinguishing between the general preamble and the specific language of the claim. The additional language suggested by Flyswat is surplusage and is not included in the definition of the preamble.[9]

(5.) A computer look up table

Flyswat proposes adding this language to the definition of "linking" in the preamble. Sentius objects that there is no support in the patent to include the language proposed by Flyswat. Sentius does not object however that the means of linking in the '720 Patent relies on a computer look up table. Indeed, there is no dispute as to the fact that an essential part of the process is the use of a computer look up table. Therefore, the Court adopts Flyswat's proposed definition.

(6.) Hyperlinks

Finally, Flyswat contends that Sentius' proposed construction of "linking" is too broad because it includes "hyperlinks," which, according to Flyswat, the specification precludes from the definition of linking. Flyswat also contends that because the '720 patent includes the limitation of tagless, it, by definition, cannot include hyperlinks.

The specification provides that,

> Current electronic book formats provide simple hyperlinks in what is termed hypertext of multimedia. *Hyperlinks to date have been simple pointers that directly link text with other text, graphics, or sound within the text file itself.* For reference materials, such as electronic encyclopedias, and dictionaries, hyperlinks provide a quick and easy way to find related material to a topic or subject. However, these links must be hard coded and are therefore cumbersome to author. The format of the system herein described provides a new means of relating text, pictures, and/or video with information to enrich and expand the impact of every element in a text, picture, or video. *This format differs from current electronic books which only link with other parts of the text of content.*

('720 Pat., 6:18-31 (emphasis added).) Flyswat argues that this passage of the specification

[9] The construction of the terms "cut," "discrete pieces" and "external reference" is addressed below.

demonstrates that links are separate from hyperlinks as used in Claim 8. However, the portion of the specification cited by Flyswat does not support Flyswat's argument. As Sentius notes, the reference to "hyperlinks to date" suggests that the invention in Claim 8 distinguishes itself from existing hyperlinks. Thus the overall method in the '720 Patent is different from the then-present state of hyperlink technology. Distinguishing a new form of hyperlink is not the same as excluding all hyperlinks.

Flyswat contends that regardless of the specification, because "linking" as used in the '720 patent is tagless, by definition it cannot include hyperlinks. Flyswat contends that a hyperlink is a form of tag. To support this argument, Flyswat turns to United States Patent No. 5,367,621 ("Cohen"), which was included in the prosecution history as prior art. (Friel Decl., Ex. A, Attach. 30, Cohen.) The Cohen patent includes a discussion of "hypertext" linking in the context of on-line books. (Friel Decl., Ex. A, Attach. 30, Cohen 4:32-5:7.) Cohen in particular states that,

> An understanding of the invention disclosed herein requires a basic knowledge of the concept of hypertext links. The link tags described herein specify hypertext links which are created within on-line documents and between on-line documents. Using the GML [generalized markup language] in the above references BookMaster publications, new tags and concepts described herein enable the creation of hypertext links within and between on-line documents.
>
> * * *
>
> Hypertext links connect elements in one part of an on-line document to elements in another part of the same document or in a separate on-line document or in an external file or a database. Links can be thought of as similar to cross-references in a printed document.

(Friel Decl., Ex. A, Attach. 30, Cohen 4:32-47.) Flyswat reads this statement in Cohen to indicate that hypertext linking or hyperlinking is based on tags. Flyswat further argues that Cohen is representative of the use of hyperlink in the art at the time that the '720 Patent was drafted. Thus Flyswat concludes that since hyperlink meant tag it must be excluded since Sentius admitted that Claim 8 is tagless.

Sentius contends that hyperlink is a broader term which is equivalent to link. Mr. Miller, testified that hyperlink was synonymous with link in the "hypertext community." In fact, Mr. Miller indicated that he had one of the first published uses of the term "hyperlink" in 1992. Thus, Sentius argues that "hyperlink" does not necessary mean a tag but encompasses other forms of linking.

Flyswat has not provided sufficient intrinsic or extrinsic evidence that linking must exclude hyperlinks. As discussed, the specification merely provides that the '720 Patent is different from then-existing forms of hyperlinks. Furthermore, Flyswat has not produced any evidence to support its assertion that hyperlink means a tag. The reference to Cohen is unpersuasive. Cohen refers to "hypertext" linking in general terms and does not explicitly or implicitly state that hypertext linking or hyperlinking is limited to tag-based linking. Moreover, Mr. Miller has testified that, to one skilled in the art, linking and hyperlinking are synonymous. Flyswat has provided no rebuttal evidence or testimony.[10] Based on all of the intrinsic and extrinsic evidence, there is no support for Flyswat's proposed definition of "linking" which excludes "hyperlinks." The Court finds that "linking" in the preamble does not exclude "hyperlinks."

3.) Construction of Preamble

Linking means "creating a tagless, media independent electronic connection using a computer look up table." Tagless means "does not depend on tags." Tags means "a data stream of text marked up in accordance with a markup language where the text is divided into elements consisting of a begin tag (mark) and its contents and terminated by an end tag (mark) when necessary." Media independent means "not tied to a particular media format."

b. Claim 8.1: determining the beginning position address of a *source material image* stored in an electronic database, said source material image including a *plurality of discrete pieces* having *links to external reference materials* comprising any of textual, audio, video, and picture information;

1.) Undisputed Terms

a.) Database

The parties agree that "database" means "a collection of data with a given structure for accepting, storing and providing, on demand, data for at least one user." (RJCCS, Attach. A, 1.) The Court adopts the parties' proposed interpretation of "database."

b.) Address

The parties agree that address as used in Claim 8.1 means "a location of data, usually in main

[10] Flyswat's expert, Dr. Tygar, did not testify as to the meaning of "hyperlink."

memory or on a disk." (RJCCS, Attach. A, 1.)[11] The Court adopts the parties' proposed interpretation of "address" as used in Claim 8.1. However, the parties dispute the meaning of "address" in Claim 8.3, 8.6, and 8.7. This dispute is discussed below.

c.) Electronic database

The parties agree that "electronic database" means "a collection of data for accepting, storing and providing, on demand, data for at least one use stored electronically." (RJCCS, Attach. A, 1.) The Court adopts the parties' proposed interpretation of "electronic database."

d.) Determining the beginning position address of a source material image

The parties agree that "determining the beginning position address of a source material image" means "locating the address at which the source material image starts in an electronic database." (RJCCS, Attach. A, 1.) The Court adopts the parties' proposed interpretation of "determining the beginning position address of a source material image."

2.) Disputed Terms

a.) Source Material Image

The parties dispute meaning of the term "source material image." Sentius contends that "source material image" is the "binary embodiment of the source material; it is the source material once it has been entered into the system described by claim 8 of the patent." (RJCCS, Attach, B, 3.) According to Sentius, the source material image need not be visual to the user although there is nothing which precludes the visualization of the source material image. Flyswat contends that "source material image" is "an image displayed on a computer screen derived from the text (and/or other material) created by means of the: (1) linking, and (2) reassembly of the cut pieces (from the 'source material')." (RJCCS, Attach. B, 3.) Flyswat further provides that "a 'source material image' is the display that the user of the linking system perceives and interacts with" and that it is "different and distinct from 'source material' that was provided, for example, by a publisher." (RJCCS, Attach. B, 3.)

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[11] Flyswat provided the *IBM Dictionary of Computing* which defines "address" as "a character or group of characters that identifies a register, a particular part of storage, or some other data source or destination." The definition is helpful in determining the meaning of address to one skilled in the art.

The term "source material image" appears for the first time in the claim language itself. It is not expressly defined in the claim nor in the specification. Sentius notes that Claim 8 refers to "source material image stored in an electronic database." ('720 Pat., 12:55.) According to Sentius, this demonstrates that the source material image must be binary. Even if true, there is nothing in the claim language or the '720 Patent which support Sentius' proposed definition that "source material image" is a "binary embodiment *of the source material*."[12]

The agreed upon definition of "source material" is "text and/or multimedia stored electronically." (RJCCS, Attach. A, 1.) Sentius' proposed definition of source material image appears identical to source material. Unless "source material image" means something more than material which is stored electronically, it is indistinguishable from the meaning of "source material" which the parties have agreed upon. Since the parties agree the terms are not interchangeable, giving them the same meaning is obviously inappropriate. Cf. Process Control Corp. v. Hydreclaim Corp., 190 F.3d 1350, 1357 (Fed. Cir. 1999) (finding that giving identical term two different meanings in same claim rendered claim invalid because differing use of terms was nonsensical).

Sentius attempts to distinguish the "source material" and "source material image" by stating that "source material" means information entered into the system and that "source material image" means the information once it has been entered into the system. Sentius cites to the specification which states,

> An electronic book and/or multi-media source material is provided as a teaching resource. A text file and/or a multimedia source consisting of an audio/video file and synchronized text, which may include sound, images and/or video is edited during construction of a linked text database by a visual editor that used to build a wordified database.

('720 Pat, 5:3-9.) Sentius claims this demonstrates that there is a difference between the source material (the source of the electronic book or multi-media) and the source material image (the text file or multi-media source). The distinction is not apparent from the text. Moreover, this argument only seems to work if "source material" is construed to exclude text files -- i.e., text stored

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[12] Sentius merely states "before the invention can create links and perform the other functions described in Claim 8, the source material must be entered into the system. When that occurs, the system creates a 'source material image.'" (Sentius Op.Br., 8.)

electronically. However, the parties have agreed that "source material" means "text and/or multimedia which is electronically stored." Thus Sentius' proposed definition of "source material image" is equivalent to "source material."

Flyswat proposes that "source material image" is "an image displayed on a computer screen derived from the text (and/or other material) created by means of the: (1) linking, and (2) reassembly of the cut pieces (from the 'source material')." (RJCCS, Attach. B, 3.) Flyswat contends that its proposed definition is supported by claim language and the specification. As already noted, Claim 8 does not itself define "source material image." The first time the term is used is in the claim language itself. The only other use of "image" is in the specification, chiefly in the description of the "compilation" step in the specification. ('720 Pat., 7:17-20; 7:26-39.) These steps state that the original book text is indexed and linked with the external references. ('720 Pat., 7:26-27.) The specification states that "[a]fter linking, the text and reference are compiled. *During compilation, the cut text is reassembled to create an image of the text that the end user sees.* At this point additional formatting may be applied to the text for final display." ('720 Pat., 7:18-7:22 (emphasis added).) The specification continues that "[a] key feature of the system format is the method by which the original book text is indexed and linked with the external references. *During the compile process an image of the text is created.* When the image is created, the cuts are indexed based upon the position offset from the beginning of the text." ('720 Pat., 7:26-29 (emphasis added).) According to Flyswat, these passages demonstrate that the source material image is the result of the compilation process which is the last step outlined in the specification and occurs after both the cutting and linking process. Thus, according to Flyswat, the source material image is the end result of the process with which the user sees and interacts.[13]

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[13] Sentius counters that this is not source material image but rather some 'other' image after the source material image has been processed by the invention. Sentius does not describe or define what this final image is called other than to refer to it as the "visualization of the source material image." Sentius also contends that "image" need not appear in the definition of "source material image" to the extent that term means a visual depiction, citing *Webster's II New Riverside University Dictionary* which provides that "image" may be defined as an "exact duplicate of data in a file onto another medium." Sentius admits this is not a technical dictionary. While dictionaries need not be technical or scientific to be consulted by the Courts, it is clear they are preferred. See AFG Indus., 239 F.3d at 1248. Regardless, the Court must be confident that one skilled in the art would believe that "image" meant

The only use of "image" in the entire patent is as a visual depiction of the source material with which the user interacts -- i.e., the end result of the process. Thus, Flyswat's proposed definition comports with the use of the term in the patent language, in particular the specification. However, as becomes apparent from reading the elements of the claims, only some of the elements use this definition of "source material image." Other elements use "source material image" in a manner which more closely corresponds to Sentius' proffered interpretation that the "source material image" is the initial material upon which the method is applied and not necessarily the final result.

Claim 8.1 states the"source material image stored in an electronic database, *said source material image including a plurality of discrete pieces having links to external reference materials* . . . ." ('720 Pat., 12:55-56 (emphasis added).) The second clause of this element provides that the source material image is comprised of discrete pieces, those discrete pieces having links to external sources. The clear implication is that source material image contains links to external reference material. As such, it is the image created at the end of the process after the cutting and linking process have been applied to the source material. This interpretation is supported by the language in the specification wherein the "image" is recreated when the text is reassembled *after* the cutting and linking processes. ('720 Pat., 7:18-22, 26-29.)

Moreover, this interpretation is supported by later claim language which refers to a user selecting a portion of the source material image. For instance, Claim 8.5 refers to selecting a discrete portion of the source material image. (720 Pat., 13:1.) This reference is to the user interacting with the source material image which appears on the computer display. Thus the source material image is the image which is the final result of the process after the source material has been cut into discrete pieces and linked to external reference material in the computer look up table. Based on the language of Claim 8.1 and 8.5, when read in light of the specification, "source material image" is the visual depiction of the document after it has been cut, linked, and compiled.

However, Claim 8.2 refers to "cutting said source material image into said discrete pieces." ('720 Pat., 12:60-61.) Claim 8.3 then refers to the addresses of the discrete pieces of "said image."

"duplicate of data in a file" and not a "graphic display." Sentius has not provided information which supports its argument that the term "image" does not mean visual or graphic depiction.

('720 Pat., 12:62-65.) This use of "source material image" suggests that the source material image is the file upon which the process is initially applied during the cutting portion of the process.[14] These references comport with Sentius' proposed definition of source material image. Based on the foregoing, "source material image" as used in the second clause of Claim 8.1 and in Claim 8.5 has a different meaning than in first clause of Claim 8.1, and in Claim 8.2 and Claim 8.3.[15]

The Court is mindful that when two interpretations are possible, a claim must be constructed to avoid invalidity if possible. See Process Control, 190 F.3d at 1358; Rhine v. Casio, Inc., 183 F.3d 1342, 1345 (Fed. Cir. 1999). However, "claims can only be construed to preserve their validity where the proposed claim construction is 'practicable,' is based on sound claim construction principles, and does not revise or ignore the explicit language of the claims." Generation II Orthotics Inc. v. MedicalTechnology, Inc. 263 F.3d 1356, 1365 (Fed. Cir. 2001) (citing Rhine, 183 F.3d at 1345); see also Process Control, 190 F.3d at 1357. A court should not redraft a claim even to preserve its validity. See Process Control, 190 F.3d at 1357 (citations omitted). In this case, the inconsistency concerning the use of "source material image" cannot be reconciled and the Court must give "source material image" two different meanings.[16]

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[14] The first clause of Claim 8.1 refers to "determining the beginning position address of a source material image stored in an electronic database." ('720 Pat.,12:55-56.) This use of source material image could correspond to either Flyswat's or Sentius' proposed definitions. However, the use seems to comply more fully with Sentius' contention of the material on which the process is applied.

[15] This dichotomy of "source material image" is supported by the parties' arguments. Flyswat expressly advocates that "source material image" has at least two separate meanings. Sentius implicitly acknowledges that "source material image" has different meanings based on its context in Claim 8. It argues that "source material image" generally means a binary embodiment of the source material. However, as noted below, Sentius suggests that it has an "introductory" or "summary" meaning in Claim 8.1 apart from that presented elsewhere in Claim 8.

[16] Sentius attempts to reconcile this apparent inconsistency by stating that Claim 8.1's second reference to source material image is a "forward-looking" "introductory" or "summary" statement. According to Sentius, the second reference to "source material image including discrete pieces having links" is an introductory clause which refers to the end result. This argument, however, is not supported by the language used in Claim 8. Claim 8.1 refers to "source material image" including discrete pieces "*having*" links to external reference material. ('720 Pat., 12:55-59.) The present possessive verb "have" does not imply some future state but instead refers to the present possession of something. Moreover, there is no claim language which explicitly states or implicitly suggests that the second use of "source material image" is introductory.

Therefore, as used in the second clause of Claim 8.1 and Claim 8.5, "source material image" means "an image displayed on a computer screen derived from the text (and/or other material) created by means of the: (1) linking, and (2) reassembly of the cut pieces (from the 'source material')." As used in the first clause of Claim 8.1, and Claims 8.2 and 8.3, the term "source material image" means "the source material once it is entered into the system and from which the discrete parts are cut."

b.) Discrete Pieces

Sentius proposes that "discrete pieces" means "the identifiable component parts which make up the source material image, as opposed to the source material as a whole." (RJCCS, Attach. B, 4.) Flyswat contends that "discrete pieces" means "any of four alternative types of information from the source material image (text, audio, video or picture information) that have been 'cut' from the 'source material.'" (RJCCS, Attach. B, 4.)

Sentius claims that its definition is supported by the specification which provides that "user has access to reference information on each word in the electronic text at a *word by word level*." ('720 Pat., 4:61-62.) According to Sentius, if the source material image was the binary equivalent of words, then the words in the source material are the identifiable component parts which make up the discrete pieces. Thus, the source material image is already composed of discrete pieces before the invention acts upon them to create links. Flyswat's definition is premised on the discrete pieces being created by the act of "cutting" the source image material. Flyswat attacks Sentius' definition as invalid because it does not refer to what Flyswat perceives is a necessary step -- cutting. Moreover, Flyswat contends that Sentius' definition is too broad because "identifiable component part" could be anything.

As a preliminary matter, Claim 8 does not define "discrete pieces." Neither side has presented support for its definition based upon the ordinary meaning of "discrete pieces" in the art. The term is not used in the specification. The specification does make reference to accessing the reference material on a "word by word" level. ('720 Pat., 4:61-62.) But this lone reference is only an exemplary embodiment of the piece of material which will be linked. It does not necessarily define the term "discrete pieces."

Flyswat notes that the term "discrete pieces" was used in the prosecution history. In response to a rejection by the PTO, Sentius represented that,

> The invention comprises a source material or text image that includes a plurality of image locations. *The beginning position of this image is determined, and the image is cut into discrete pieces*. The start and end positions of each discrete piece are determined by comparison to the beginning position of the image. This information is stored in a look-up table.

(Friel Decl., Ex. A., Attach. 14, 7:34-8:4 (emphasis added).) This reference to discrete pieces establishes that the discrete pieces are the result of the cutting process and that their content is the source material image.

Ultimately neither party has presented definitive intrinsic evidence supporting the competing arguments. As in any claim construction, the Court first looks to the language of the claim. Claim 8.1 reads "discrete pieces having links to external reference materials." ('720 Pat., 12:56-58.) At a minimum, the discrete pieces are those which have "links to external references" as the end result of the process.[17] Moreover, as is clear from both the claim language and the prosecution history, the discrete pieces are the result of the "cutting" process which is part of the overall method. ('720 Pat., 12:59-60 ("Cutting said source material image into said discrete pieces"); Friel Decl., Ex. A., Attach. 14, 7:34-8:4.) Thus, "discrete pieces" refers to the pieces which are cut from the source material as the term is used in Claim 8.2 and 8.3. Finally, the discrete pieces may constitute words, both English and foreign, as indicated by the specification. ('720 Pat., 4:61-62.) However, neither the claim language nor other intrinsic evidence provides whether the discrete pieces are limited to words or may take other forms -- e.g., English characters, whole sentences, or paragraphs, etc. Therefore, the definition of discrete pieces must reflect that the discrete pieces are components of the source material image which are cut and linked to external reference material. The discrete pieces may be comprised of words.

Additionally, Flyswat contends that the definition should include a reference to "four alternative types of information from the source material image (text, audio, video, or picture

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[17] Again Sentius contends this reference to discrete pieces is a summary sentence. However, for the reasons previously discussed, the Court is unable to read the claim language in a fashion which gives it a meaning which is contrary to the language when read in light of the specification.

information)." This phrase appears in Claim 8.1 which provides "a plurality of discrete pieces having links to external reference materials *comprising any of textual, audio, video and picture information.*" ('720 Pat., 12:56-59 (emphasis added).) Flyswat argues that this phrase modifies "discrete pieces." However, the four types of media mentioned in Claim 8.1 modifies "external reference materials," not "discrete pieces." There is no intrinsic evidence supporting Flyswat's definition.[18] Therefore, the Court finds that the phrase "four alternative types of information from the source material image (text, audio, video, or picture information)" is not part of the definition of discrete pieces.

c.) Plurality of Discrete Pieces

The parties agree that "plurality" means "more than one." Flyswat contends that there is a limitation within this term because Sentius surrendered the claim that the method can only link from textual material to textual material. It is unclear how this affects "plurality of discrete pieces." Indeed, Flyswat's proposed limitation appears more applicable to the definition "reference material" or "linking." The Court shall analyze Flyswat's proposed limitation in the context of "reference material."

d.) Links

The parties do not differentiate the use of "links" in Claim 8.1 from the term "linking" in the preamble. Thus, the same limitations which attach to "linking" attach to "link."

5.) Having links to external reference materials

Based on the foregoing, "having links to external reference material" means that the "discrete pieces which comprise the source material image" -- with "source material image" meaning "an image displayed on a computer screen derived from the text (and/or other material) created by

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[18] Flyswat also claims its proposed limitation is supported by the patent language. It first notes that the specification uses the term "displayed elements." (See '720 Pat., 3:40.) Flyswat then points to the specification which states that the invention is designed to help a person read or learn a difficult text, which may be "any of actual text based on material, or audio, video, or graphic based information." (See id. at 4:50-52.) Flyswat equates "displayed elements" with "discrete pieces" and concludes that "displayed elements" is equivalent to the different forms of the document which may be entered into the system. The logic of this argument is illusive. Moreover, the reference to the various forms of the document which may be entered into the system are at most an exemplary embodiment and not tied to the description of "displayed elements" or "discrete pieces" into which the document is cut.

means of the: (1) linking, and (2) reassembly of the cut pieces (from the 'source material') -- have "links" to "reference material" which is "external" to the "source material image."

Additionally, Flyswat contends that the links to the external reference material must exclude links only from text to text. Flyswat cites to the prosecution history in which Sentius stated,

> As discussed above, the Transparent Language reference only discloses the linking of textual material to textual material. *There is nothing to teach or suggest that the Transparent language program is suitable for use with audio, video, or image information. In fact, the brochure teaches away from the use of linked audio information*, because the audio component of the Transparent Language system is on separate cassette tapes.
>
> *The Transparent Language reference does not suggest in any way the use of multimedia source material linked to multimedia reference material.* Cassorla, et al. discloses a method of associating annotation with electronically published material. Cassorla specifically refers to a method for permitting a reader of electronically published text to create textual notes or annotations, and relate them back to the original document . . . . *Again, there is no teaching or suggestion of the use of multimedia information, such as audio, video, or image information.*

(Friel Decl., Ex. A, Attach. 14, 10:24-36 (emphasis added).) The PTO responded that, "*Applicant argues that there is no teaching of audio, video or image information in the Transparent Language program*. However, the claims consistently make use of the phrase 'any of' textual, audio, video or picture information. Thus, a reference having only one of these alternatives meets this limitation." (Friel Decl., Ex. A, Attach. 15, 2 (emphasis added).

Sentius did not respond to this proposed limitation. Based on the prosecution history, it is clear that Sentius has surrendered any claim that the method links *only* from textual material to textual material.

3.) Construction of Element

Based on the foregoing, Claim 8.1 is construed as follows: "determining the beginning position address of a source material image" means "locating the address at which the source material image starts in an electronic database," with "source material image" meaning, "the source material once it is entered into the system and from which the discrete parts are cut," "address" meaning "a location of data, usually in main memory or on a disk," and "electronic database" meaning "a collection of data for accepting, storing and providing, on demand, data for at least one use stored electronically." As to the second clause which states "Said source material image

including a plurality of discrete pieces having links to external reference materials comprising any of textual, audio, video, and picture information," "source material image" means "an image displayed on a computer screen derived from the text (and/or other material) created by means of the: (1) linking, and (2) reassembly of the cut pieces (from the 'source material')," "plurality of discrete pieces" means "more than one piece of the source material image which is cut from the source material image and which is linked to external reference material. The discrete pieces may be comprised of words," and "links" means a tagless, media independent connection to a computer look up table given the meaning of those terms as used in the preamble.

c. Claim 8.2: *cutting* said source material image into said discrete pieces

1.) Undisputed Terms

The parties agree that "said source material image" refers to the "source material image" in Claim 8.1 and that "said discrete pieces" refers to the "discrete pieces" described in element 8.1. (RJCCS, Attach. A, 2.) The Court adopts the parties' proposed construction of these terms.

2.) Disputed Terms

The parties dispute the meaning of "cutting." Sentius claims that cutting means "the identification of a portion of material or data within another part of the material or data; in this case, cutting means the identification of the discrete pieces within the source material." (RJCCS, Attach. B, 8.) Flyswat principally argues that Claim 8.2 cannot be construed because there is no means, method, or step for cutting. However, Flyswat does propose that "cutting" means "a visual editor, for example a point and click system using a pointing device such as a mouse, to cut source material into discrete pieces for linking in a later step" in case the Court does find that Claim 8.2 can be construed. (RJCCS, Attach. B, 8.)

As with most of the terms, Claim 8.2 itself does not define "cutting." Neither party presented any intrinsic evidence that cutting has a certain meaning in the context of Claim 8.2. Sentius has proposed a definition based on the ordinary meaning of "cutting." To this end it refers to *Webster's II New Riverside University Dictionary* which states that "cut" is to "separate into parts . . . ." According to Sentius, this supports its definition that cut means to take the existing, discrete pieces and separate them from each other.

The definition of cut is inextricably linked with the definition of discrete parts. Discrete pieces are those pieces of the source material image which are cut from the image and linked to external reference material. They may be comprised of words. Thus "cutting" refers to the separation of the pieces of the source material from other source material which may mean the separation of words from other words. This is the meaning of "cutting" as used in the Claim 8.2 when read in light of the claim language of "discrete pieces."

Flyswat argues that the term should not be construed because the method by which the "cutting" is accomplished cannot be discerned from Claim 8. It is undisputed that Claim 8 does not provide a method for cutting the source material image into discrete pieces. However, the specification does provide a method for cutting. "The word cutting process is accomplished using a simple visual editor, for example a point and click system using a pointing device, such as a mouse. The process divides the text into individual components of text that are linked with the additional reference material." ('720 Pat., 6:64-7:2.) Thus there is a method for cutting provided in the specification. Anticipating this reference, Flyswat contends that cutting must be limited to "the use of a visual editor" because this is the only method provided in the '720 Patent.

The use of the visual editor as the means for cutting the source material is described in reference to applying the process to a textual document. There is no other method described in the patent. The question is whether a person skilled in the art would consider "cutting" to require a "visual editor" in every application or whether that reference is merely illustrative in the context of a textual document. At the claim construction hearing, Flyswat's expert Dr. Tygar testified that a visual editor would be required in order to cut the material into logical or coherent portions. He gave as an example the term "Left Bank" which means a neighborhood along the Seine River in Paris if considered a single unit or a direction and a repository of money, for example, if divided into its component parts. Thus, according to Dr. Tygar, it is necessary to employ a visual editor to divide the material into meaningful parts based on the context. Sentius' expert, Mr. Miller, testified that a visual editor is not necessary to cut the document. He conceded that the absence of a visual editor may result in certain words being divided into meaningless parts. However, Mr. Miller stated that people with a basic knowledge of computer science could have written a computer program at the

time the '720 Patent was drafted which automatically divided text in an electronic file.

No authority has been cited and none has been found which requires the Court to construe the claim to give the patent its optimal performance. In this case, the use of a visual editor is the best means for dividing the text. However, neither the claim language nor the specification require the visual editor to be the only means to cut the material. Flyswat has provided no further extrinsic evidence that a visual editor is necessarily required to cut the material, only that other means are not as desirable. This subjective assessment is not a sufficient basis to limit the claim language. Rather, cutting may, though is not required to be, accomplished by use of a visual editor.

3.) Construction of Element

"Cutting said source material image into said discrete pieces" means "separating the pieces of the source material image from other pieces of the source material," with "said source material image" referring to the "source material image" in the first clause in element 8.1 and "said discrete pieces" referring to the "discrete pieces" described in element 8.1.

d. Claim 8.3: determining a *starting point address* and an *ending point address* of said discrete pieces of said image based upon said beginning position address of said source material image;

1.) Undisputed Terms

The parties agree that "said image" means the "source material image" in Claim 8.1 and 8.2 and that "said discrete pieces of said image" means the discrete pieces of the source material image referred to above in 8.1 and 8.2. (RJCCS, Attach. A, 2.) The Court adopts the parties' proposed interpretation of these terms.

2.) Disputed Terms

Sentius contends that "starting point address of a discrete piece" means the "address at which the discrete piece begins in relation to the beginning position address of the source material image" and "ending point address of a discrete piece" means the "address at which the discrete piece ends in relation to the beginning position address of the source material image." (RJCCS, Attach. B, 9.) Flyswat proposes that Claim 8.3 means "finding two byte offset addresses such that the discrete piece is described by the bytes of the source material image at the two addresses and all the byte offset addresses in between, if any (and no other addresses)." (RJCCS, Attach. B, 9.) "These

addresses are expressed as 'byte offsets' from the beginning of the source material image. These addresses are not expressed as screen coordinates." (RJCCS, Attach. B, 9.) Flyswat further defines "byte offset" as the "director from the starting point of a file in a file system. Its value is added to a base value of the starting position of the file to derive the actual value. An offset into a file is simply the character location within that file, usually starting with 0; thus 'offset 240' is actually 241st byte of the file." (RJCCS, Attach. B, 9.)

Sentius asserts its definition is based directly on the agreed upon definition of "address" in Claim 8.1. Based on this definition of address, Sentius claims that a"starting point address of a discrete piece" is the "character or group of characters that identifies the location of the electronic point in the source material image at which the discrete piece begins." Similarly, "ending point address" is the location where the discrete piece ends. Sentius' definition corresponds to the definition of "address" as agreed to by the parties in Claim 8.1 and the ordinary meaning of "starting point address" -- location where discrete piece begins -- and "ending point address" -- location where a discrete piece ends.

Flyswat contends that Sentius' definition is inappropriate based on the implicit meaning of "starting" and "ending" and because Sentius surrendered the ordinary meaning of "determining the starting point address of a discrete piece" and "ending point address of a discrete piece" as used in Claim 8.3. Rather, it argues that starting and ending point addresses must be expressed in one-dimensional (i.e, linear) values. Based on this premise, Flyswat proposes that "determining a starting point address and an ending point address" requires finding two one-dimensional addresses -- one for the starting points and one for the ending point. Flyswat claims this definition is supported by the Claim as well as the specification because only one-dimensional values have "starting" and "ending" points.

The Claim itself does not contain such a limitation. The exemplary embodiment in the specification refers to a textual document which would have a one-dimensional value. Dr. Tygar, Flyswat's expert, testified that a single starting and ending point might be applicable to text, but it could not be applied if there was image because the image would require more than a single starting and ending address. Thus, according to Dr. Tygar, there must be two different values for "starting

point address" and "ending point address" when referring to two-dimensional images. Mr. Miller, Sentius' expert, testified that it is possible to find the starting and ending point addresses using single values, although he concedes that it would be less precise than using more values.

As discussed below, the Court finds that address must be expressed as a "pure byte offset." Flyswat's definition is premised on the fact that the "address" as used in Claim 8.3 is a pure byte offset. Sentius' proffered interpretation does not correspond with this limitation. Thus the Court finds that Flyswat's interpretation of "*two* byte offset addresses such that the discrete piece is described by the bytes of the source material at the *two* addresses and all bytes offset addresses in between, if any (and no other addresses)" is correct.

As noted, Flyswat contends that, based on the prosecution history, the definition of "starting" and "ending point address[es]" must be expressed as "byte offsets." The PTO initially rejected Sentius' claim because there was a conflict with prior art, in particular the Cassorla and Transparent Language patents. The PTO stated,

> It would have been obvious to those of ordinary skill in the art to modify the teachings of the Transparent Language program to include mouse-based designation of the word of interest for the obvious convenience. *Moreover, as the mouse output is well known to be limited to screen coordinates*, some processing must obviously be utilized to convert the screen location to a location within a multi-page document. *Cassorla et al. specifically teaches that the coordinates or position of each portion of a document is given hierarchically from the beginning of the document and that this coordinate system can resolve portions as fine as individual words.* Cassorla further teaches that a cursor, driven by a mouse for example, is positioned on a desired portion of text and the portion of text is determined using the hierarchical coordinates system for linking with the desired portion with external reference material. *Again, as the output of well known mouse drivers is merely the screen coordinates and the result taught by Cassorla is the designation of the overall coordinates within the document*, Cassorla is seen to provide for "selecting of a discrete portion of said source material" and "means for converting" the mouse's screen position into an "offset value" indicating displacement of the designated portion of the document. *Further, Cassorla teaches that the context of a portion of interest can be designated by indicating two coordinates to "bracket" the portion of interest. Considering the use of two coordinates to indicate a range of portions relevant to one external reference, it would have been obvious to those of ordinary skill in the art that when designating that portion for reproduction of the external reference material, that the designated position would have been examined with respect to the range of coordinates covered by those two coordinates specified in order to properly access the external reference.*

(Fried Decl., Ex. A., Attach. 11, 6-7 (emphasis added).) It was in this context that Sentius attempted to distinguish the prior art by stating that "Cassorla requires a paragraph and word offset in which a

link is determined by a paragraph number and an offset within the paragraph. Thus Cassorla is limited to a specific text format. *In contrast, the claimed invention operates upon pure byte offset that are unrelated to the data type, location, and format.* Again, there is no teaching or suggestion of the use of multimedia information, such as audio, video, or image format." (Fried Decl., Ex. A., Attach. 14, 10:36-11:6 (emphasis added).) The PTO still rejected the patent, stating that "[w]hile applicant argues the claimed invention operates upon pure byte offsets that are unrelated to data type, it is not seen where this is required by the claim language. Due to the use of broad terms such as 'position' and 'location', Cassorla's coordinates still read on the broad terms of the claim." (Fried Decl., Ex. A., Attach. 15, 5.) Sentius responded by amending the patent to replace "location" with "address" and stated that the amended claims "reflect that the particular addresses are being determined for each individual image, reference, discrete piece, etc. These addresses are compared to the stored addresses in the look-up table, rather than the Cassorla approach of linking particular references to the text itself." (Fried Decl., Ex. A., Attach 17.) It was reaffirmed that the invention operated on "pure byte offsets" and therefore avoided the prior art of Cassorla. (Fried Decl., Ex. A., Attach. 18, 6:16-22.)

Sentius contends that this part of the prosecution history only highlights how the present system is different from previous systems which used a manually-inserted tag for location of the document segment. Further, that the reference to "pure byte offset" is merely something more which Sentius' invention can perform, but is not a limitation on Sentius' system. However, the prosecution history make clears that the term "addresses" used in Sentius' system refers only to "pure byte offsets." The meaning of "address" includes "pure byte offset" because this meaning was expressly given to the process in order to avoid prior art, and therefore, "pure byte offset" must be read into the definition of "addresses" in Claim 8.3.

This necessitates defining the terms "pure byte offset." The parties have agreed that "pure byte offset" means "the distance from the starting point of data structure stored in some electronic storage medium. Its value is added to a base value starting position of the data structure to derive the actual value." The Court adopts the parties' definition of "pure byte offset."

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3.) Construction of Element

The term "determining a *starting point address* and an *ending point address* of said discrete pieces" means "two byte offset addresses such that the discrete piece is described by the bytes of the source material at the two addresses and all bytes offset addresses in between, if any (and no other addresses)." A "pure byte offset" is "the distance from the starting point of data structure stored in some electronic storage medium. Its value is added to a base value starting position of the data structure to derive the actual value."

e. Claim 8.4: recording said starting and said ending addresses in a look-up table;

1.) Undisputed Terms

The parties agree that "recording" means "fixing or storing data in a retrievable or reproducible way." (RJCCS, Attach. A, 2.) Additionally, the parties agree that "said starting and said ending point addresses" refer to the "starting and ending point addresses" referred to above in 8.3. (RJCCS, Attach. A, 2.) The Court adopts the parties' proposed construction of these terms.

2.) Disputed Terms

The parties did not reach an agreement on the meaning of "look up table." However, they have agreed that this term need not be constructed for purposes of the overall infringement and invalidity claims. The Court agrees and declines to construe "look up table."

f. Claim 8.5: selecting a discrete portion of said source material image;

The parties have agreed to a construction of Claim 8.5 which reads "in this step, the end user of the method (a person) selects a discrete portion of said source material image as it appears on his or her computer screen using an input device." (RJCCS, Attach. A, 2.) The Court adopts the parties' construction of element 8.5. Further, as noted above, the Court interprets "source material image" to mean "an image displayed on a computer screen derived from the text (and/or other material) created by means of the: (1) linking, and (2) reassembly of the cut pieces (from the 'source material')."

g. Claim 8.6: determining the *address of said selected discrete portion*;

1.) Disputed Terms

The parties dispute the meaning of "address of said selected discrete portion." Sentius claims

that "address of said selected discrete portion" refers to the address in the source material image of the discrete portion of the source material image which has been selected in accordance with the limitation of 8.3. Sentius proposes that address in 8.6 means "pixel location of the screen display accessed by a user's click." Flyswat contends that 8.6 cannot be construed because "address" as used in Claim 8.6 must be expressed as a plurality of byte offsets but that this meaning is nonsensical because in step 8.7 the "address" is converted into a byte offset value. Additionally, Flyswat argues that the singular use of "address" is invalid because an address must have two points.

The specification refers to the user clicking the text image with a pointing device. ('720, Pat., 7:37-39.) Thus, the user interacts with the source material image on the display to select a portion of the source material image. This reference in the specification corresponds to Claim 8.5 which refers to "selecting a discrete portion of said source material image." ('720 Pat., 13:1.) The location of the selected discrete portion must be determined, which is embodied in 8.6. According to Sentius, because the user interacts with the display, the "address" as referred to in Claim 8.6 is the "pixel location" on the display. This interpretation is logical in the context of the specification.

Flyswat counters that Sentius surrendered the definition of "pixel location." Flyswat contends that "pixel location" is synonymous with the term "screen coordinate" in the context of the patent. Sentius has not objected to this characterization. Flyswat argues that Sentius expressly surrendered using "screen coordinates" in the application process and contends that because "address" must be expressed as a pure byte offset, it cannot be expressed as screen coordinate since those methods of location are inconsistent. Therefore, Flyswat argues that pixel location is not the proper interpretation of address in Claim 8.6.

Like Claim 8.3, Claim 8.6 was also amended to include the term "address." These amendments were made, in part, to avoid prior art, particularly Cassorla. The PTO explained to Sentius during the application process that the use of screen coordinates of the interested word in text to compare to coordinates of reference material in a look up table was embodied in Cassorla. (Fried Decl., Ex. A, Attach. 11, 6-7.) In particular, the PTO noted the structured format by which Cassorla organized the annotations. (Fried Decl., Ex. A, Attach. 11, 6-7.) It was in response to this objection that Sentius represented that, unlike Cassorla's structured format which relied on

paragraphs and words to determine the location of the link, the linking mechanism in the '720 Patent relies on a "pure byte offset" location to link to references in an external look up table. (Fried Decl., Ex. A, Attach. 14, 10:36-11:6.) In this context Sentius eventually amended the '720 Patent to replace "location" or "position" with "address." (Fried Decl., Ex. A, Attach. 17.)

Thus, the use of "address" must include the limitation of "pure byte offset" in certain situations. However, the term in general means location of data as the parties agreed upon in interpreting "address" in Claim 8.1. The question is whether "address" as used in Claim 8.6 has a general meaning or is limited to pure byte offset. When read in the context of the overall language of Claim 8 and the specification, "address" as used in Claim 8.6 means "location."

Claim 8.6 refers to the location of the source material image which the user has selected on the display. This particular location is *not* compared to the address of the discrete pieces which have references recorded in the look up table. Rather, as embodied in Claim 8.7, the location on the source material image is first converted into a byte offset value which in turn is compared with the offset values of the discrete pieces in the look up table to determine if there is an external reference. (720 Pat., 13:3-11.) In this context, "address" does not have the limitation of pure byte offset.

This interpretation is not inconsistent with the prosecution history. As discussed, it was in the context of the use of byte offsets to determine the relative location *of the discrete pieces* in which Sentius limited "address." Sentius surrendered using screen coordinates to fix the location of the discrete pieces of the source material image, not the initial location of the selected text which is converted into byte offsets. Indeed, the use of screen coordinates to fix the location corresponds to the specification which refers to selecting a portion of the displayed image by use of a pointing device. Based on the intrinsic evidence, "address" as used in Claim 8.6 has a general meaning of location.

Nonetheless, Flyswat still contends "address of discrete portion" cannot be construed because there must be more than reference to "address" since there is a beginning and ending point to an address. Sentius counters that while there must be two "addresses" as used in Claim 8.5, a singular reference to "address" in Claim 8.6 is correct. The "discrete piece" must be measured as a begin and end point in order to determines which external reference refers to that discrete piece.

However, the address of the "discrete portion" which the user *selects* need only have a singular location within the source material image -- i.e,. the discrete piece. For example, in order to compare "however" as it appears at the top of the page to an external reference, it would be necessary to note where that term begins ("h") and ends on the page ("r") based on a pure byte offset system. However, if the user selects some single point between the beginning and ending point (e.g., "w"), the user would be able to link to the external reference for "however."

This construction is supported by the claim language read in light of the specification. The user clicks on a portion of the display. ('720, Pat., 7:37-39.) This selection may be only one point on the display; thus it would have only one address. Moreover, the parties agree that "address" only means location of data. A location may be expressed as a beginning and end point *or* it may be expressed as single point. Thus, the fact that Claim 8.6 refers to "address" without a begin and end point does not render Claim 8.6 incapable of construction.

Sentius' proposed interpretation comports with the claim language when read in context of the claim language as a whole as well as in light of the specification. The "address" of the "selected discrete portion" is merely the location of the discrete portion in the source material image which is displayed to the user. This "address" is defined as the "pixel location" or "screen coordinates." It is not limited to a pure byte offset and need not be plural.

2.) Construction of Element

"Determining the address of said selected discrete portion" means determining the pixel location or screen coordinates of the selected discrete portion of the source material image which the user has selected on the display."

b. Claim 8.7: *converting said address* of said selected discrete portion to *an offset value* from said beginning position address of said source material image:

1.) Disputed Terms

The parties agree that "offset" is the "distance from a starting point" (RJCCS, Attach, A., 3.) Sentius defines "offset value" as meaning "the difference which is expressed as a numerical value between the location of a selected address and the base locations." (RJCCS, Attach. B, 12.) Flyswat does not provide a proposed definition because it claims the term cannot be defined since the term

address cannot be defined in Claim 8.6. Based on the construction of Claim 8.6, it is not implausible to "convert" the "address" into an "offset value." Therefore, the Court finds that Claim 8.7 can be construed. The parties agreed that byte offset means "the distance from the starting point of data structure stored in some electronic storage medium" and its "value" is determined by adding the value of the offset to a "base value starting position of the data structure."

2.) Construction of Element

Based on the foregoing, "converting said address of said discrete portion to an offset value from said beginning address of said source material image" means "converting the screen coordinates of the selected discrete portion of the source material image into a byte offset value," with pure byte offset meaning "the distance from the starting point of data structure stored in some electronic storage medium" and its "value" determined by adding the value of the offset to a "base value starting position of the data structure."

i. **Claim 8.8: comparing said offset value with said recorded start and end point addresses of said discrete pieces in said look-up table;**

There are no disputes with respect to the construction of the terms in Claim 8.8 since these terms have already appeared in the previous elements of Claim 8.

j. Claim 8.9: selecting an external reference that corresponds to said look-up table start and end point addresses; and

The parties agree that "external reference" means "reference material external to the source material which is related to the source material by linking." (RJCCS, Attach. A., 3.) The Court adopts this definition of "external reference."

k. Claim 8.10: reproducing said external reference.

There is no dispute concerning the construction of the terms in this element.

III. Conclusion

For the reasons stated above, Claim 8 of United States Patent No. 5,882,720 is CONSTRUED as provided above.

IT IS SO ORDERED.

Dated: 3-29-02

SAUNDRA BROWN ARMSTRONG
United States District Judge